

UNITED STATES NAVAL OBSERVATORY

CIRCULAR NO. 19

U. S. Naval Observatory, Washington 25, D. C.

June 5, 1950

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS

APRIL, 1950

By Lucy T. Day

An explanation of the symbols used is given in Circular No. 15.

U. T.	No.	Δl	ϕ	ρ	A	s	U. T.	No.	Δl	ϕ	ρ	A	s
		°	°	°					°	°	°		
1.665	10290	-35	+10	39	121	21	3.701	10298	-80	-18	80	339	1
W-3	10290	-34	+13	40	12	6	N-3	10297	-70	+9	73	24	1
	10290	-31	+11	36	109	1		10296	-44	+11	48	36	1
	10290	-28	+13	35	36	5		10296	-37	+11	41	24	1
	10290	-25	+14	33	61	1		10295	-20	-21	24	12	4
	10290	-36	-6	36	24	13		(*)	-19	+10	25	12	3
	10293	-26	-5	26	61	4		10290	-10	+10	18	121	8
	10292	-33	+29	48	582	1		10290	-5	+8	16	194	3
	10294	-28	-22	32	16	5		10290	-3	+10	17	61	1
	10288	-9	-4	10	12	7		10292	-8	+29	37	582	1
	10288	-7	-2	9	242	1		10294	-3	-23	17	145	10
	10287	+12	+29	38	12	3		10294	+3	-21	16	242	4
	10287	+13	+28	38	109	1		10293	-2	-5	2	12	4
	(6)	(90)	(-7)		1397	69		10293	+1	-5	1	12	1
								10293	+4	-6	4	48	1
2.674	10296	-55	+12	59	24	10		10288	+21	-2	22	194	1
N-3	10292	-25	+30	45	24	3		10287	+38	+27	51	97	1
	10292	-20	+29	41	582	1		(11)	(63)	(-6)		2155	46
	10290	-23	+10	28	73	6							
	10290	-20	+9	25	121	4	4.667	10298	-67	-18	67	339	1
	10290	-17	+11	24	109	1	N-3	10298	-67	-23	67	12	3
	10290	-12	+13	24	97	2		10297	-56	+8	58	24	6
	10293	-18	-1	19	12	1		10296	-31	+11	36	36	2
	10293	-13	-5	13	73	8		10296	-25	+11	31	73	5
	10293	-10	-7	10	24	1		10299	-12	+12	22	6	2
	10294	-15	-23	22	61	5		10290	+4	+10	17	97	15
	10294	-10	-21	18	97	4		10290	+8	+9	18	218	13
	10288	+5	-4	5	24	5		10290	+8	+13	21	24	7
	10288	+7	-2	8	218	1		10290	+10	+11	20	61	1
	10287	+25	+27	42	97	1		10290	+15	+14	25	73	1
	(7)	(77)	(-6)		1636	53		10292	+5	+29	37	582	1
								10294	+10	-23	20	48	3

APRIL

U.T.	No.	Δl	φ	ρ	A	s
	10294	+16	-20	22	436	19
	10293	+11	-5	11	12	7
	10293	+16	-5	16	36	1
	10288	+33	-2	33	194	1
	10288	+34	-4	34	6	1
	10287	+47	+32	60	12	2
	10287	+49	+27	60	145	1
	(10)	(50)	(-6)		2434	92
5.850	10298	-52	-17	52	339	1
N-2	10297	-40	+7	43	12	1
	10296	-17	+12	25	24	2
	10296	-11	+12	22	48	6
	10296	-7	+12	19	97	1
	10290	+20	+10	26	97	8
	10290	+23	+9	27	242	6
	10290	+25	+12	31	73	2
	10290	+30	+14	37	48	1
	10292	+20	+28	40	582	1
	10294	+25	-25	30	24	2
	10294	+28	-22	32	194	6
	10294	+31	-20	33	97	4
	10294	+37	-20	39	339	1
	10293	+31	-5	31	48	2
	10288	+47	-4	47	61	1
	10288	+48	-2	49	194	1
	10287	+63	+27	72	145	1
	(9)	(35)	(-6)		2664	47
6.876	10298	-38	-17	39	291	1
N-2	10296	+2	+13	19	97	2
	10296	+6	+14	20	145	3
	10292	+33	+28	48	533	1
	10290	+38	+9	41	267	3
	10290	+44	+13	49	48	1
	10294	+40	-21	42	339	3
	10294	+48	-20	49	339	4
	10293	+42	-5	42	48	1
	10293	+47	-5	47	48	3
	10288	+63	-3	63	218	1
	(7)	(21)	(-6)		2373	23
7.642	10303	-79	+13	79	97	4
N-3	10303	-78	+15	80	388	1
	10298	-29	-20	32	24	2
	10298	-27	-17	29	315	1
	10296	+12	+13	22	48	2
	10296	+17	+14	27	145	5
	10292	+43	+27	55	582	1
	10290	+49	+9	51	218	3
	10290	+55	+13	60	48	1
	10294	+52	-21	53	194	6
	10294	+60	-20	61	436	5
	10293	+53	-5	53	48	3
	10293	+57	-5	57	48	5
	10288	+72	-3	72	194	1
	(8)	(11)	(-6)		2785	40
8.722	10303	-67	+13	71	533	10
N-2	10303	-62	+13	67	339	7
	10298	-14	-19	17	12	1
	10298	-13	-16	16	291	1
	10296	+32	+14	37	73	2
	10292	+56	+27	65	582	1
	10290	+63	+10	66	218	3

U.T.	No.	Δl	φ	ρ	A	s
	10294	+65	-21	66	170	4
	10294	+75	-20	75	388	1
	10293	+70	-4	70	97	1
	(7)	(357)	(-6)		2703	31
9.670	10303	-57	+13	61	727	6
N-3	10303	-51	+11	55	485	5
	10303	-48	+12	52	485	2
	10298	-2	-19	13	24	6
	10298	-1	-16	10	291	1
	10296	+46	+13	50	73	1
	10292	+70	+27	77	582	1
	10290	+76	+11	78	145	3
	10294	+80	-21	80	97	2
	(6)	(344)	(-6)		2909	27
10.710	10303	-43	+13	48	824	7
N-2	10303	-37	+13	43	970	8
	10298	+11	-19	17	48	5
	10298	+14	-16	16	291	1
	10296	+60	+13	63	97	1
	10292	+85	+27	85	388	1
	(4)	(331)	(-6)		2618	23
11.778	10303	-28	+17	37	12	6
N-3	10303	-28	+13	34	679	5
	10303	-24	+15	32	61	1
	10303	-22	+13	29	921	4
	(*)	-11	+16	25	12	1
	10298	+26	-19	28	12	1
	10298	+27	-17	29	218	1
	10307	+61	-16	62	12	3
	10306	+70	+29	78	12	1
	10296	+74	+13	77	48	1
	(6)	(317)	(-6)		1987	24
12.761	10305	-50	+8	53	12	1
N-3	10305	-45	+6	47	85	7
	10303	-24	+15	32	48	1
	10303	-18	+14	28	73	2
	10303	-17	+18	30	36	3
	10303	-15	+13	25	727	2
	10303	-8	+13	22	485	1
	10303	-8	+11	19	388	2
	10303	-5	+11	18	12	1
	10298	+38	-19	40	24	4
	10298	+39	-17	40	194	1
	10307	+75	-16	75	24	4
	(4)	(304)	(-6)		2108	29
13.647	10308	-80	+13	80	291	1
N-3	10308	-75	+14	78	145	5
	10305	-38	+8	42	6	1
	10305	-32	+6	34	109	7
	10303	-4	+17	25	12	4
	10303	-3	+15	22	727	14
	10303	+1	+12	18	97	4
	10303	+3	+11	18	388	1
	10303	+3	+13	19	485	3
	10303	+7	+11	18	61	2
	10298	+52	-17	52	145	1
	(4)	(292)	(-6)		2466	43

APRIL

U. T.	No.	Δl °	φ °	ρ °	A	s	U. T.	No.	Δl °	φ °	ρ °	A	s	
14,644 N-4	10309	-73	- 3	73	97	2		10305	+40	+ 6	42	145	1	
	10308	-67	+13	70	436	4		10303	+64	+14	67	582	5	
	10308	-62	+14	67	412	3		10303	+70	+17	73	388	1	
	10305	-25	+ 9	29	24	5		10303	+70	+13	72	291	1	
	10305	-22	+ 7	26	48	4		(4) (225)	(-5)			2606	27	
	10305	-17	+ 6	21	121	4								
	10303	+ 7	+15	23	48	4		19,636 N-2	10312	-78	-15	78	12	2
	10303	+11	+13	23	776	12			10311	-18	+ 9	23	12	4
	10303	+15	+12	24	97	5			10308	0	+13	18	242	7
	10303	+17	+14	27	461	4			10308	+ 6	+16	22	242	5
	10303	+17	+11	25	291	3			10305	+46	+10	48	24	1
	10303	+19	+13	27	48	3			10305	+47	+ 6	49	194	4
	10298	+64	-16	64	121	1			10305	+50	+ 5	52	48	2
	(5) (279)	(-6)			2980	54			10305	+52	+ 8	53	533	4
15,865 N-2	10309	-61	- 2	61	12	1			10303	+77	+14	78	533	4
	10309	-58	- 3	58	48	1			10303	+85	+16	85	388	1
	(*)	-61	+18	67	12	1			10303	+85	+12	85	291	1
	10308	-50	+13	54	533	6		(5) (213)	(-5)			2519	35	
	10308	-44	+14	48	436	6								
	10305	- 5	+ 8	16	48	3		20,595 W-3	10312	-70	-17	71	97	11
	10305	- 3	+ 7	14	36	2			10312	-65	-15	65	121	7
	10305	+ 1	+ 6	12	133	6			10313	-65	+14	68	6	2
	10303	+23	+16	33	24	4			10313	-58	+13	61	16	4
	10303	+23	+13	30	170	1			10309	+ 5	- 3	5	12	2
	10303	+27	+13	33	485	6			10308	+13	+15	24	291	9
	10303	+33	+14	40	388	3			10308	+20	+15	28	145	2
	10303	+33	+11	37	36	2			10305	+60	+ 9	62	97	3
	10303	+35	+12	40	267	1			10305	+61	+ 6	63	170	4
	10303	+35	+ 9	38	12	1			10305	+63	+ 4	65	48	1
	10303	+40	+ 9	43	12	1			10305	+65	+ 6	67	436	3
	10298	+80	-17	80	73	1			10305	+66	+ 8	68	97	7
	(6) (263)	(-6)			2725	46		(5) (200)	(-5)			1536	55	
16,668 W-2	10309	-45	- 3	45	48	1		21,668 N-3	10314	-80	-12	80	36	10
	10308	-38	+13	44	388	11			10314	-77	-12	77	24	1
	10308	-32	+15	38	388	5			10312	-56	-17	57	242	6
	10305	+ 8	+ 8	17	121	12			10312	-55	-19	56	48	3
	10305	+12	+ 7	17	194	15			10312	-50	-16	52	170	7
	10303	+36	+18	44	36	8			10308	+21	+10	25	12	4
	10303	+38	+15	45	485	17			10308	+27	+15	35	242	12
	10303	+41	+13	47	194	1			10308	+32	+15	36	121	8
	10303	+45	+15	51	291	3			10305	+73	+ 7	75	145	1
	10303	+45	+12	50	242	11			10305	+75	+10	77	218	9
	10310	+51	+ 9	54	36	3			10308	+75	+ 8	77	145	1
	(5) (252)	(-6)			2423	87			10305	+78	+ 9	79	436	6
17,683 N-2	10308	-25	+13	30	339	12		(4) (186)	(-5)			1839	68	
	10308	-20	+15	28	388	5		22,631 N-3	10314	-69	-12	70	48	1
	10305	+20	+ 9	24	73	3			10314	-65	-12	65	73	1
	10305	+22	+ 8	25	194	5			10314	-61	-12	61	97	1
	10305	+26	+ 8	29	291	4			10312	-44	-17	45	436	6
	10303	+49	+13	52	145	6			10312	-42	-18	44	24	1
	10303	+52	+15	55	533	5			10312	-38	-16	40	485	8
	10303	+58	+17	62	364	2			10308	+39	+15	44	291	5
	10303	+58	+13	61	291	1			10308	+45	+16	49	73	1
	(3) (239)	(-5)			2618	43		(3) (173)	(-5)			1527	24	
18,723 N-2	10309	-17	- 3	17	12	2		23,603 W-3	10318	-76	- 2	76	145	1
	10308	-12	+13	22	291	4			10314	-57	-13	57	145	4
	10308	- 6	+15	21	291	4			10314	-53	-11	54	48	8
	10305	+35	+10	38	97	3			10314	-49	-13	50	242	3
	10305	+35	+ 7	37	194	3			10312	-31	-19	33	436	4
	10305	+37	+ 5	39	24	1			10312	-29	-18	32	145	15
	10305	+40	+ 8	43	291	2			10312	-25	-17	27	582	1
									10317	-22	+25	36	48	4

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U. T.	No.	Δl	ϕ	ρ	A	s	U. T.	No.	Δl	ϕ	ρ	A	s
	10316	+38	- 7	38	12	3		10312	+20	-18	24	291	5
	10315	+40	+ 9	43	24	2		10312	+25	-17	27	145	5
	10308	+51	+15	54	170	11		10312	+30	-17	33	388	6
	10308	+59	+14	62	36	4		(8) (106) (-5)				3427	68
	(7) (160) (-5)				2033	60							
24.792	10321	-76	-20	78	242	1	28,640	10325	-79	+12	80	194	1
N-3	10318	-59	- 2	59	145	1	N-3	10324	-69	+16	71	145	7
	10314	-40	-12	42	194	2		10324	-68	+15	70	194	1
	10314	-35	-11	36	97	9		10324	-68	+17	70	97	1
	10314	-32	-13	33	533	3		10323	-45	+26	54	291	1
	10319	-24	- 5	24	24	4		10321	-25	-21	29	218	1
	10319	-20	- 5	20	12	2		10321	-24	-19	27	12	1
	10312	-17	-19	23	388	6		10322	-21	-11	22	24	3
	10312	-13	-17	17	145	11		10322	-17	- 9	17	97	4
	10312	- 8	-15	13	533	5		10318	- 8	- 2	8	145	1
	10315	+57	+ 8	59	97	1		10320	- 4	-15	12	24	1
	10308	+67	+15	70	242	6		10314	+10	-11	12	170	1
	(7) (145) (-5)				2652	51		10314	+13	-12	14	194	14
								10314	+20	-10	21	170	7
25.598	10323	-87	+25	87	242	1		10314	+22	-10	23	776	1
W-4	10321	-65	-21	66	291	9		10312	+33	-18	35	194	7
	10322	-60	-11	60	6	3		10312	+38	-18	41	48	1
	10322	-58	-11	58	24	6		10312	+43	-17	44	388	7
	10318	-48	- 2	48	145	1		(9) (94) (-4)				3381	60
	10320	-45	-15	47	16	1							
	10314	-28	-12	31	206	9	29.685	10325	-75	+13	77	24	1
	10314	-25	-11	26	194	30	W-3	10325	-65	+12	67	121	1
	10314	-20	-13	22	630	1		10324	-57	+15	60	12	1
	10319	-11	- 5	11	12	4		10324	-55	+16	58	97	3
	10312	- 7	-19	17	291	9		10324	-53	+14	56	242	7
	10312	- 3	-17	12	145	35		10323	-31	+26	45	267	2
	10312	+ 3	-16	11	533	20		10326	-22	-12	23	24	3
	10315	+66	+10	68	12	4		10321	-11	-21	20	194	1
	10315	+70	+ 8	72	24	3		10321	- 9	-20	18	12	1
	10308	+78	+15	78	145	13		10322	- 8	-11	11	24	3
	(10) (134) (-5)				2916	149		10322	- 3	-10	6	121	5
								10318	+ 6	- 2	7	145	1
26.631	10323	-72	+26	76	267	1		10320	+ 9	-14	14	24	4
N-3	10321	-50	-21	53	218	2		10314	+25	-13	26	291	6
	10321	-49	-19	51	6	1		10314	+32	-13	33	145	16
	10322	-46	-11	47	61	7		10314	+37	-12	38	727	1
	10322	-41	-11	42	12	1		10312	+49	-19	51	170	8
	10318	-34	- 2	34	170	1		10312	+59	-19	59	364	4
	10320	-31	-15	33	24	1		(10) (80) (-4)				3004	68
	10314	-14	-12	15	339	5							
	10314	- 9	-12	12	145	20							
	10314	- 5	-12	8	630	1	30.590	10325	-61	+13	65	36	1
	10312	+ 8	-19	16	291	10	W-3	10325	-52	+13	55	121	3
	10312	+12	-17	17	121	11		10324	-43	+16	47	121	21
	10312	+18	-16	22	315	6		10324	-41	+15	46	97	9
	(7) (120) (-5)				2599	67		10324	-39	+15	44	73	15
								10323	-20	+26	36	242	3
27.688	10324	-85	+16	86	291	4		10326	-11	-11	14	36	4
N-4	10324	-80	+15	81	48	1		10326	- 7	-11	7	24	5
	10323	-58	+26	64	339	1		10321	+ 1	-21	17	194	1
	10321	-39	-21	42	218	2		10322	+10	- 9	12	12	1
	10321	-35	-20	37	48	10		10322	+11	-10	12	73	2
	10322	-34	-11	35	24	5		10318	+18	- 2	19	145	1
	10322	-30	-11	31	61	2		10320	+23	-15	25	12	5
	10318	-21	- 2	22	145	1		10320	+27	-17	32	24	4
	10320	-17	-15	21	24	4		10314	+39	-13	41	242	15
	10314	- 1	-12	7	339	5		10314	+45	-13	46	145	12
	10314	+ 4	-13	9	242	15		10314	+49	-12	50	727	1
	10314	+ 9	-12	12	824	2		10312	+61	-19	61	121	4
								10312	+70	-19	71	339	2
								(10) (68) (-4)				2784	109

Mean for 30 days, $A = 2460$, $r = 119.6$